

Abstract of the Disclosure

The present invention is directed to an apparatus and process for heating and cooling semiconductor wafers in thermal processing chambers. In particular, the apparatus of the present invention includes a cooling device for actively cooling the wafers after the wafers have been heated. During use, the cooling device can be movable towards and away from a wafer placed in the chamber for selectively cooling the wafer at desired times. In an alternative embodiment, a gas can be directed towards the wafer for rapidly reducing the temperature of the wafer at the completion of the process. Alternatively, the wafer can be lowered to close proximity of a cooling member to achieve active and selective cooling.